Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A fuel cell system including a fuel cell that generates electricity through an electrochemical reaction between a fuel gas and an oxidizing gas, and a load device which is supplied with electric power from the fuel cell, the fuel cell system comprising:

a first detector that detects a voltage across an anode and a cathode of the fuel cell;

a second detector that detects a pressure in a fuel supply passage of the fuel cell;

a control section, comprising a computer configured to control~~section that controls~~ a gas supply unit to supply each of the fuel gas and the oxidizing gas to the anode and the cathode of the fuel cell, respectively by quantity corresponding to a load of the load device based on the detected pressure;

wherein the control section estimates a gas permeation quantity of at least one of the fuel gas and the oxidizing gas between the anode and the cathode after the power generation performed by the fuel cell is stopped based on the detected voltage; and

wherein the control section corrects a supply quantity of at least one of the fuel gas and the oxidizing gas each corresponding to the load in accordance with the estimated gas permeation quantity, which is to be supplied by the gas supply unit upon a subsequent start of power generation.

2. (Previously Presented) The fuel cell system according to claim 1, wherein the gas permeation quantity is estimated based on a drop rate of an open circuit voltage after the power generation performed by the fuel cell is stopped.

3. (Previously Presented) The fuel cell system according to claim 2, wherein the drop rate of the open circuit voltage is calculated based on an amount of a voltage drop that has occurred between the anode and the cathode due to a leakage of the fuel gas to the cathode and a leakage of the oxidizing gas to the anode after the power generation performed by the fuel cell is stopped, an elapsed time from when the power generation performed by the fuel cell is stopped, and a function which has been obtained through experiment or simulation calculation preliminarily.

4. (Previously Presented) The fuel cell system according to claim 1, wherein the gas permeation quantity is estimated based on a gas pressure decrease rate in the fuel gas after the power generation performed by the fuel cell is stopped.

5. (Previously Presented) The fuel cell system according to claim 4, wherein the gas pressure decrease rate is calculated based on the estimated gas permeation quantity which has been obtained through experiment or simulation calculation preliminarily based on a fuel gas pressure in the anode after the power generation performed by the fuel cell is stopped, a decrease in the fuel gas pressure for an elapsed time from when the power generation performed by the fuel cell is stopped until when the power generation performed by the fuel cell is restarted, and the elapsed time.

6. (Previously Presented) The fuel cell system according to claim 1, wherein the control section independently sets each of a correction amount of the fuel gas and a correction amount of the oxidizing gas based on the estimated gas permeation quantity.

7. (Previously Presented) The fuel cell system according to claim 1, wherein the control section independently estimates each of the gas permeation quantity of the fuel gas and the gas permeation quantity of the oxidizing gas.

8. (Previously Presented) The fuel cell system according to claim 1, wherein the control section brings the power generation performed by the fuel cell to a stopped state in an intermittent operation mode.

9. (Canceled)